CLAIM AMENDMENTS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1   1.   (Currently Amended) A method of displaying all connections between a

2   subject node and outside nodes not displayed on ~~links connecting a network device~~

3   ~~with network devices outside~~ a map currently presented on a graphical user

4   interface (GUI) of a communication network, wherein each of said outside nodes is

5   associated with at least one of a plurality of outside node groups, the method

6   comprising:

7   ~~collecting data for all objects to be displayed on said map in response to a~~

8   ~~request transmitted over said GUI, said request specifying an area of interest in the~~

9   ~~network;~~

10   bundling, for each of said plurality of outside node groups, said connections

11   between said subject node and said outside nodes belonging to said outside node

12   group to create an outside link bundle; ~~connections between said network device~~

13   ~~and groups of network devices into a plurality of outside links, wherein said map~~

14   ~~corresponds to said area of interest and each outside link represents a group of~~

15   ~~network devices outside said map;~~

16   grouping said outside link bundles the plurality of outside links for said

17   network device into a multiple link connector (MLC) object and associating said

18   MLC object with an interactive connector icon with said MLC object;

19   displaying said interactive connector icon on said map, wherein said map

20   showing said interactive connector icon is attached to said subject node network

21   device; and

22   selecting said interactive connector icon for displaying, responsive to

23   selecting said interactive connector icon, a pop-up window showing a multiple link

24   connector (MLC) list wherein each outside link bundle and corresponding outside

25   node group are displayed as an item in said MLC list. where each outside link is

26   associated with a respective group.

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1   2.   (Canceled)

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1   3.   (Currently Amended) The method of claim 1, wherein:

2   said MLC multiple link connector list displays in each row an interactive

3   outside link widget associated with a respective interactive group identification

4   widget,

5   each interactive outside link widget is associated with one of said outside link

6   bundles a respective outside link of said plurality of outside links, and

7   each interactive group identification widget is associated with a respective

8   one of said <u>outside node groups</u> ~~group of network devices~~.

4. (Currently Amended) The method of claim 3, further comprising<u>:</u>

selecting said interactive outside link widget on said <u>MLC</u> ~~multiple-link connector~~ list to display a connections list L(n) identifying all connections bundled within said outside link <u>bundle</u> ~~object~~.

5. (Currently Amended) The method of claim 3, further comprising<u>:</u>

selecting said respective interactive group identification widget on said multiple link connector list to display a sub-map of said network showing <u>said one of said outside node groups</u> ~~all network devices in said group~~.

6. (Currently Amended) A system for providing a modified graphical user interface (GUI) adapted to transmit commands and display information with a view to enable management of a communication network, the system comprising:

a map data collector that collects map data for a network device to be displayed on a map of interest;

a multiple link connector (MLC) generator that bundles connections between said network device and <u>each of a plurality of</u> groups of outside network devices

8   external to said map into an outside link bundle a plurality of outside links, and

9   maintains a connections list L(n) for each of said outside link bundles;

10   a list organizer that groups said outside link bundles plurality of outside

11   links for said network device into a multiple link connector (MLC) and associates

12   said MLC with an interactive connector icon with said MLC, wherein said

13   interactive connector icon is displayed on said map and is attached to said network

14   device; and

15   an interface that displays a multiple link connector (MLC) list in response to

16   a selection of said interactive connector icon, each row of said MLC list showing an

17   association between one of said each outside link bundles and a respective one of

18   said plurality of groups group of outside network devices.

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1   7.   (Canceled)

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1   8.   (Currently Amended) The modified GUI of claim 6,

2   wherein each said outside link bundle is displayed on said MLC list using an

3   interactive outside link widget.

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1   9.   (Currently Amended) The modified GUI of claim 6,

2   wherein each said group of outside network devices associated with said respective

3   outside link bundle is displayed using an interactive group identification widget.

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1   10.   (Currently Amended) The modified GUI of claim 8,

2   wherein said list organizer displays said list of connections L(n) associated with a

3   respective outside link bundle. MLC list in response to selection of said interactive

4   outside link widget.

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1   11.   (Original) The modified GUI of claim 9,

2   wherein said list organizer displays a sub-map of said group in response to selection

3   of said interactive group identification widget.

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1   12.   (Currently Amended) The modified GUI of claim 6,

2   wherein said interactive connector icon is not generated for a MLC containing only

3   one connection a single connection.

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1   13.   (Currently Amended) A method of using a modified graphical user interface

2   (GUI) adapted to reduce the cluttering of icons on a map of interest, the method

3   comprising:

4   whenever a network device has connections to a group is connected to groups

5   of outside network devices external to said map, bundling said connections groups

6   into an outside link bundle; a plurality of outside links;

7   displaying an interactive multiple link connector (MLC) icon, the MLC

8   multiple link connector icon grouping all outside link bundles associated with said

9   network device the plurality of outside links into a single icon; and

10   selecting said MLC multiple link connector icon on said map to obtain a

11   multiple link connector (MLC) list that displays an interactive outside link widget

12   for each of said outside link bundles, each interactive outside link widget associated

13   with an interactive group identification widget for each group of outside network

14   devices connected to said network device.

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1   14.   (Currently Amended) The method of claim 13, further comprising:

2   selecting said interactive outside link widget for said associated outside link

3   bundle to obtain a list L(n) with all connections contained in said associated outside

4   link bundle. between said network device and said group.

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1   15.   (Currently Amended) The method of claim 13, further comprising:

2   selecting said interactive group identification widget on said multiple link

3   connector list to display a sub-map of all network devices in said associated group.

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1   16.   (Currently Amended) For a GUI of a communication network, a computer-

2   readable ~~media~~ medium embodying a comprehensive network map illustrating all

3   outside links to a plurality of network devices external to said map, comprising:

4   a network device icon, illustrating a network device in the context of said

5   map;

6   an interactive multiple link connector (MLC) icon associated to said network

7   device, representing all outside links between said network device and all groups of

8   outside network devices connected to the network device, wherein said MLC

9   ~~multiple-link-connector~~ icon comprises a button for enabling display of a multiple

10   link connector (MLC) list; and

11   a pop-up window displaying said MLC list, wherein each row in said MLC list

12   displays one of said outside links and said group of outside network devices to which

13   said outside link connects ~~multiple-link-connector list, said multiple-link-connector~~

14   ~~list showing an association between each said outside link and a respective group of~~

15   ~~said outside network devices~~.

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1   17.   (Canceled)

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1   18.   (Currently Amended) The computer-readable ~~media~~ medium of claim 16,

2   wherein each row of said multiple link connector list comprises an outside link

3   widget associated with a group identification widget.

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1 19. (Currently Amended) The computer-readable ~~media~~ medium of claim 18,

2 further comprising:

3   a list with all connections between said network device and said group, the

4 list displayed on said map upon selection of said outside link widget.

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1 20. (Currently Amended) The computer-readable ~~media~~ medium of claim 18,

2 further comprising:

3   a sub-map of said group displayed on said map upon selection of said group

4 identification widget.

21. (New) The method of claim 1, wherein at least one of said plurality of outside

node groups is associated with only one outside node.

22. (New) The modified GUI of claim 6, wherein at least one of said plurality of

groups of outside network devices is associated with only one outside network

device.

23. (New) The modified GUI of claim 13, wherein at least one of said groups of

outside network devices is associated with only one outside network device.